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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,791	10/16/2003	Kurt E. Heikkila	A202 1490	7940
7590 05/13/2005			EXAMINER	
WOMBLE CARLYLE SANDRIDGE & RICE			ROSSI, JESSICA	
P.O. Box 7037			ART UNIT	
Atlanta, GA 30357-0037			PAPER NUMBER	
			1733	

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,791

Applicant(s)

HEIKKILA, KURT E.

Examiner

Jessica L. Rossi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/25/05, Amendment.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-36 is/are pending in the application.
- 4a) Of the above claim(s) 17, 31, 35 and 36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-16, 18-30 and 32-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date: 05112005.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 17, 31 and 35-36 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

In the instant case, the product could be made by another and materially different process such as one where the sealant is applied to the glass unit instead of the grooved lineals before moving the lineals onto the glass unit (see MPEP 806.05(f)).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 17, 31 and 35-36 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Response to Amendment

2. This action is in response to the amendment dated 1/25/05. Claims 1-3 were cancelled. Claims 4-36 were added. Claims 17, 31 and 35-36 are withdrawn from further consideration.
3. US 4668556 to Hermann et al., which was applied in the previous office action, is no longer being used as prior art against the claimed invention because the newly filed claims distinguish the claimed invention from this reference.

Claim Objections

4. Claim 5 is objected to because of the following informalities: "groove" should be changed to --grooved-- in line 3. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 15-16, 18-30 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guhl et al. (US 6055783) in view of Lautenschlaeger et al. (US 5234730), or alternatively, Lautenschlaeger et al. in view of Guhl et al.

With respect to claims 18 and 32, Guhl teaches assembling a window sash by applying a sealant/adhesive 86/88 to the grooves of four lineals 76a-d, urging the lineals onto the edges of a glass unit until the ends of the lineals meet and securing the ends of the lineals together to form the frame of the sash (Figures 7-8; column 3, lines 20-30; column 5, lines 13-27; column 8, lines 35-47; column 10, lines 39-67). However, Guhl is silent as to the sealant/adhesive being triggerable and triggering the sealant/adhesive to bond and seal the glass unit within the lineals.

Lautenschlaeger is directed to "command-cure" compositions and their use in window assemblies. Such compositions allow a glass unit and a substrate, such as a frame, to be assembled via the composition while it is in a non-adhesive state and then triggering the composition to enter an adhesive state so that it seals and bonds the glass unit to the frame; therefore, bonding takes place at a point in time chosen by the user of the composition (abstract; Figures 2 and 8; column 2, lines 22-26; column 14, lines 38-44; column 15, lines 48-54). The composition can be triggered to enter its adhesive state using a variety of methods that include

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heat, UV radiation, microwave radiation, removal of a blocking agent, etc. (column 4, lines 23-26; column 5, lines 8-31).

One reading Guhl as a whole would have appreciated that the type of sealant/adhesive used is not critical to the invention and therefore it would have been obvious to the skilled artisan to use a sealant that is maintained in a non-adhesive state until the lineals are urged onto the edges of the glass unit and then triggered to enter an adhesive state to bond and seal the glass unit within the lineals for that of Guhl because such triggerable sealants are known in the window glass art, as taught by Lautenschlaeger, wherein such a sealant allows the user to control when bonding between the glass unit and lineals takes place.

Alternatively, the skilled artisan reading Lautenschlaeger as a whole would have appreciated that the reference is not concerned with bonding the glass unit to a particular substrate and therefore would have been motivated to use the triggerable sealant of Lautenschlaeger to seal and bond the glass unit into the grooves of four lineals comprising a sash frame because it is known in the art to apply an sealant/adhesive to the grooves of four lineals comprising a sash frame before urging the lineals onto the edges of the glass unit and then securing the lineals together to form the sash frame, as taught by Guhl.

With respect to claims 4, 29-30 and 33-34, all the limitations were addressed above with respect to claims 18 and 32, except the sealant having an exposed surface bearing a dual state adhesive, applying a temporary adhesion blocker to the dual state adhesive to place it in a substantially non-adhesive state, urging the edges of the glass unit into the grooves while the adhesive is in the non-adhesive state and allowing the adhesion blocker to dissipate thereby

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placing the dual state adhesive in a substantially adhesive state to bond the glass unit within the grooves.

*It is noted that present claim 4 does not exclude applying a temporary adhesion blocker to the dual state adhesive by incorporating the temporary adhesion blocker into the dual state adhesive before the sealant is applied to the groove of the lineal such that the exposed surface of the sealant bears the dual state adhesive.

As stated above, Lautenschlaeger teaches triggering the composition to enter its adhesive state using a variety of methods the include heat, UV radiation, microwave radiation, removal of a blocking agent, etc. (column 4, lines 23-26; column 5, lines 8-31). In the removal of a blocking agent method, a blocking agent is incorporated into the composition before applying the same (note reference teaches applying composition in variety of forms, including a tape form) to the window unit or frame and subsequently removing the blocking agent by heating the composition, which then triggers the adhesive state of the composition so as to bond and seal the window unit to the frame (column 5, lines 8-31).

For the same reasons as stated above, the skilled artisan would have been motivated to use a sealant that is maintained in a non-adhesive state by applying a temporary adhesion blocker to the sealant until the lineals are urged onto the edges of the glass unit and then triggering the sealant to enter an adhesive state by removing the adhesion blocker to bond and seal the glass unit within the lineals for that of Guhl because such triggerable sealants are known in the window glass art, as taught by Lautenschlaeger, wherein such a sealant allows the user to control when bonding between the glass unit and lineals takes place.

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Alternatively, the skilled artisan reading Lautenschlaeger as a whole would have appreciated that the reference is not concerned with bonding the glass unit to a particular substrate and therefore would have been motivated to use the temporarily blocked sealant of Lautenschlaeger to seal and bond the glass unit into the grooves of four lineals comprising a sash frame because it is known in the art to apply an sealant/adhesive to the grooves of four lineals comprising a sash frame before urging the lineals onto the edges of the glass unit and then securing the lineals together to form the sash frame, as taught by Guhl.

Regarding claims 15-16 and 21, the skilled artisan would have appreciated that bowing of the mid portions would be a result of the amount of pressure applied during the urging of the lineals onto the glass unit wherein an amount of pressure sufficient to cause such bowing is well within the purview of the skilled artisan so as to ensure that the edges of the glass unit are secured within the grooves of the lineals.

Regarding claims 19-20, Guhl in view of Lautenschlaeger teaches such (Figure 8; column 10, lines 39-43; note position of primary sealants 86 and 88).

Regarding claims 22-25, Guhl teaches such (column 3, lines 25-30).

Regarding claim 26, Guhl teaches such (column 4, lines 3-5).

Regarding claim 27, selection of a particular material would have been within purview of the skilled artisan.

Regarding claim 28, this limitation was addressed above with respect to claims 4, 18 and

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7. Claims 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guhl et al. and Lautenschlaeger et al., or alternatively, Lautenschlaeger et al. and Guhl et al. as applied to claim 4 above, and further in view of Crandell (US 6886297).

Regarding claim 5, Guhl teaches urging a plurality of grooved lineals 76a-d onto the edges of the glass unit (column 10, lines 46-63) but is silent as to this taking place substantially concurrently. It would have been obvious to the skilled artisan to urge the lineals onto the edges of the glass unit substantially concurrently because such is known in the art, as taught by Crandell (Figures 4a-d; column 5, line 64 – column 6, line 10).

Regarding claim 6, Guhl teaches such (Figures 7-8).

Regarding claim 7, Guhl teaches such as set forth with respect to claims 18 and 32 above.

Regarding claim 8, Guhl teaches such (column 4, lines 3-5).

Regarding claim 9, selection of a particular material would have been within purview of the skilled artisan.

Regarding claim 10, Guhl teaches such (Figure 7; column 10, lines 61-63).

Regarding claims 11-14, Guhl teaches such (column 3, lines 25-30).

8. Claims 4-11, 15-16, 18-19, 21-22, 24, 26-30 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crandell in view of Lautenschlaeger et al., or alternatively, Lautenschlaeger et al. in view of Crandell.

With respect to claims 18 and 32, Crandell teaches assembling a window sash by applying a sealant/adhesive 52 to the grooves of four lineals 26, 28, 30 and 32, urging the lineals onto the edges of a glass unit until the ends of the lineals meet and securing the ends of the lineals together to form the frame of the sash (Figures 2-4D; column 4, lines 30-38; column 5,

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lines 42-44; column 5, line 60 – column 6, lines 20). However, Guhl is silent as to the sealant/adhesive being triggerable and triggering the sealant/adhesive to bond and seal the glass unit within the lineals.

Lautenschlaeger is directed to “command-cure” compositions and their use in window assemblies. Such compositions allow a glass unit and a substrate, such as a frame, to be assembled via the composition while it is in a non-adhesive state and then triggering the composition to enter an adhesive state so that it seals and bonds the glass unit to the frame; therefore, bonding takes place at a point in time chosen by the user of the composition (abstract; Figures 2 and 8; column 2, lines 22-26; column 14, lines 38-44; column 15, lines 48-54). The composition can be triggered to enter its adhesive state using a variety of methods that include heat, UV radiation, microwave radiation, removal of a blocking agent, etc. (column 4, lines 23-26; column 5, lines 8-31).

One reading Crandell as a whole would have appreciated that the type of sealant/adhesive used is not critical to the invention and therefore it would have been obvious to the skilled artisan to use a sealant that is maintained in a non-adhesive state until the lineals are urged onto the edges of the glass unit and then triggered to enter an adhesive state to bond and seal the glass unit within the lineals for that of Crandell because such triggerable sealants are known in the window glass art, as taught by Lautenschlaeger, wherein such a sealant allows the user to control when bonding between the glass unit and lineals takes place.

Alternatively, the skilled artisan reading Lautenschlaeger as a whole would have appreciated that the reference is not concerned with bonding the glass unit to a particular substrate and therefore would have been motivated to use the triggerable sealant of

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Lautenschlaeger to seal and bond the glass unit into the grooves of four lineals comprising a sash frame because it is known in the art to apply a sealant/adhesive to the grooves of four lineals comprising a sash frame before urging the lineals onto the edges of the glass unit and then securing the lineals together to form the sash frame, as taught by Crandell.

With respect to claims 4, 29-30 and 33-34, all the limitations were addressed above with respect to claims 18 and 32, except the sealant having an exposed surface bearing a dual state adhesive, applying a temporary adhesion blocker to the dual state adhesive to place it in a substantially non-adhesive state, urging the edges of the glass unit into the grooves while the adhesive is in the non-adhesive state and allowing the adhesion blocker to dissipate thereby placing the dual state adhesive in a substantially adhesive state to bond the glass unit within the grooves.

*It is noted that present claim 4 does not exclude applying a temporary adhesion blocker to the dual state adhesive by incorporating the temporary adhesion blocker into the dual state adhesive before the sealant is applied to the groove of the lineal such that the exposed surface of the sealant bears the dual state adhesive.

As stated above, Lautenschlaeger teaches triggering the composition to enter its adhesive state using a variety of methods the include heat, UV radiation, microwave radiation, removal of a blocking agent, etc. (column 4, lines 23-26; column 5, lines 8-31). In the removal of a blocking agent method, a blocking agent is incorporated into the composition before applying the same (note reference teaches applying composition in variety of forms, including a tape form) to the window unit or frame and subsequently removing the blocking agent by heating the

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composition, which then triggers the adhesive state of the composition so as to bond and seal the window unit to the frame (column 5, lines 8-31).

For the same reasons as stated above, the skilled artisan would have been motivated to use a sealant that is maintained in a non-adhesive state by applying a temporary adhesion blocker to the sealant until the lineals are urged onto the edges of the glass unit and then triggering the sealant to enter an adhesive state by removing the adhesion blocker to bond and seal the glass unit within the lineals for that of Crandell because such triggerable sealants are known in the window glass art, as taught by Lautenschlaeger, wherein such a sealant allows the user to control when bonding between the glass unit and lineals takes place.

Alternatively, the skilled artisan reading Lautenschlaeger as a whole would have appreciated that the reference is not concerned with bonding the glass unit to a particular substrate and therefore would have been motivated to use the temporarily blocked sealant of Lautenschlaeger to seal and bond the glass unit into the grooves of four lineals comprising a sash frame because it is known in the art to apply an sealant/adhesive to the grooves of four lineals comprising a sash frame before urging the lineals onto the edges of the glass unit and then securing the lineals together to form the sash frame, as taught by Crandell.

Regarding claim 5, Crandell teaches such (column 6, lines 6-11).

Regarding claim 6, Crandell teaches such (Figure 3).

Regarding claim 7, Crandell teaches such as set forth above with respect to claims 18 and

32.

Regarding claim 8, Crandell teaches such (column 8, lines 16-25).

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Regarding claim 9, selection of a particular material would have been within purview of the skilled artisan.

Regarding claim 10, Crandell teaches such (Figure 1; column 6, lines 6-20).

Regarding claim 11, Crandell teaches such (column 6, lines 19-20).

Regarding claims 15-16 and 21, the skilled artisan would have appreciated that bowing of the mid portions would be a result of the amount of pressure applied during the urging of the lineals onto the glass unit wherein an amount of pressure sufficient to cause such bowing is well within the purview of the skilled artisan so as to ensure that the edges of the glass unit are secured within the grooves of the lineals.

Regarding claims 19, Crandell in view of Lautenschlaeger teach such (Figures 4a-d).

Regarding claims 22 and 24, Lautenschlaeger teaches such (column 6, lines 19-20).

Regarding claim 26, Crandell teaches such (column 8, lines 16-67).

Regarding claim 27, selection of a particular material would have been within purview of the skilled artisan.

Regarding claim 28, this limitation was addressed above with respect to claims 4, 18 and 32.

9. Claims 12-14, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crandell and Lautenschlaeger et al., or alternatively, Lautenschlaeger et al. in view of Crandell as applied to claims 11, 18 and 24 above, and further in view of Guhl et al.

Regarding claims 12-14, 23 and 25, skilled artisan would have appreciated that Crandell is not limited to a particular joining method for the ends of the lineals (column 6, lines 19-20).

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Therefore, it would have been obvious to use those methods claimed by Applicant because such is known in the art, as taught by Guhl (column 3, lines 25-30).

10. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crandell and Lautenschlaeger et al., or alternatively, Lautenschlaeger et al. in view of Crandell as applied to claim 18 above, and further in view of Schindler et al. (US 5908674).

Regarding claims 19-20, if it is not taken that Crandell in view of Lautenschlaeger teach applying the triggerable sealant to at least one wall of the groove it would have been obvious to have apply the sealant to one wall or both walls of the groove because such is known in the art, as taught Guhl (Figure 8), where this ensures that the sealant engages as much of the glass unit as possible; especially in light of the fact that it is known in the art to have the sealant cover the bottom and both walls of the grooved frame, as taught by Schindler (Figures 1-2; column 2, lines 14-17).

Response to Arguments

11. Applicant's arguments with respect to claims 4-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. **The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.**

*It is noted that Applicant's invention, with respect to claim 4, is really directed to applying the adhesion blocker onto the dual state adhesive after the adhesive has been applied to the grooves of the lineals, even though present claim 4 is not limited to such.

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However, to expedite prosecution, the examiner would like to bring it to Applicant's attention that the concept of applying a temporary adhesion blocking agent (i.e. water and/or alcohol and/or detergent solution – note present invention teaches similar solution on p. 6, lines 12-15) onto the exposed surface of an adhesive and/or glass substrate before contacting the adhesive and glass is known in the art where the solution serves as a lubricant thereby allowing the adhesive to move easily on the glass surface so that it can be accurately positioned before the solution is removed and bonding between the adhesive and glass takes place, as taught by the collective teachings of Futhey (US 5840407; column 7, lines 35-54) and Pitzen (US 6811848; column 7, line 60 – column 8, line 18).

The examiner appreciates that these references are not directed to bonding the glass substrate within the groove of a lineal but the skilled artisan would have been motivated by the collective teachings to apply such an adhesion blocking solution onto the sealant/adhesive of Guhl (cited above), Cadrell (cited above) or Guhl (US 6260251 – not applied in the rejections set forth above; see column 5, lines 22-38), which is already located in the grooves of the lineals, so that friction between the glass and lineals is reduced upon urging the lineals onto the edges of the glass thereby preventing damage to the glass and/or sealant/adhesive and allowing for accurate positioning of the glass within the lineals before bonding takes place.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

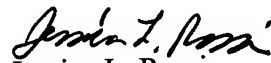
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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine R. Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jessica L. Rossi
Primary Examiner
Art Unit 1733